RATE MODELLING

MDJ
11-3-04

This application is a 371 of PCT/GB03/04958 11/12/2003

This invention relates to rate modelling and, in particular, to a method and apparatus for determining the appropriate rate to apply in respect of systems or
5 processes, or to specific instances of a product or service.

It is known in the field of telecommunications, for example, to model tariff rules and the corresponding charging rates to be applied according to those rules when billing for provision and use of telecommunications services. Typical tariff modelling methods in the telecommunications field are those used in the arbor® billing platform and in
10 Convergys'® Geneva billing software. However, whilst these systems provide a basic model of tariff rules and charging rates, these systems appear to have been designed primarily for use with products comprising a relatively small number of different tariffs, for example voice telephony products for which the price to be charged for use of the product is largely a function of time at a relatively small number of different charging rates, e.g. a
15 local call rate, a national call rate, a rate for calls to mobile telephones and a rate for "premium rate" calls.

Consider an example of a voice telephony product for which the price for making a telephone call is a function not only of the duration of the call but also of the distance, rounded up to the nearest kilometre, between the calling party and the respective called
20 party. To define the charging rate to be applied in calculating the price of calls, prior art tariff rate models would require a different tariff to be defined for every discrete distance measure from 1 kilometre (km) up to the maximum distance likely to occur. Each tariff would define the charging rate to be applied when calculating the price of calls over the respective calling distance. To calculate a price for a particular call of given calling
25 distance and duration, firstly the appropriate tariff would be selected for the given calling distance, and secondly the charging rate defined for that tariff would be used to calculate the price for the call of given duration. Fortunately, a more conventional voice telephony product may comprise only two distance-related charging rates, one for local-rate calls of up to 56km and one for national-rate calls of over 56km. Such a product requires only two
30 tariffs to be defined in prior art tariff rate models. But it is clear that in prior art systems, modelling the tariffs for more complex products can entail either the definition and entry of a great many different tariffs with very similar descriptions, which slows down processing for billing runs and can be onerous both for initial data entry and for subsequent tariff revisions, or the imposition of an artificial simplification (or complication) of the charging
35 structure for those products in order for the billing system to work. Having a great many